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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/457,743	12/10/1999	HIDEAKI SAKURAI	0834-0243-0	8014

7590 08/28/2002

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EXAMINER

JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 08/28/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-17

Office Action Summary

Application No.

09/457,743

Applicant(s)

SAKURAI ET AL.

Examiner

Monique R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 2, (3-6)/2, 7-17, 18/2, and 19-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, (3-6)/1 and 18/1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 2, (3-6)/2, 7-17, 18/2, and 19-25 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 12.

2. Applicant's election with traverse of Claims 1, (3-6)/1, and 18/1 in Paper No. 12 is acknowledged. The traversal is on the ground(s) that the Office has not provided adequate reason or example to support a conclusion of patentable distinctness or has shown that a burden exists in search the entire application. This is not found persuasive because, as discussed previously, the Examiner believes the restriction is proper based on the reasons previously cited, specifically with regards to Groups I and II wherein the structures, fluorine gradient and fluorine concentration of Group I is different from that of Group II, and wherein the inventions have acquired a separate status in the art as shown by their different classification.

The requirement is still deemed proper and is therefore made FINAL.

Specification

3. The disclosure is objected to because of the following informalities: on pages 8-17, the summary of the invention includes reference to specific claim numbers, however, given that these claims and the claim numbers may change during prosecution of this application, it is suggested that reference to specific claim numbers be removed from the cited pages.

4. The disclosure is objected to because of the following informalities:

On page 9, line 3, "34 a" should read "34a".

On page 38, line 2, a close parenthesis is needed after "(Fig. 5(b))".

Appropriate correction is required.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Drawings

6. The drawings are objected to because they contain terms that have not been translated and are expressed in Japanese. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 includes a parenthetical expression in lines 2-5, which renders the claim indefinite because it is unclear whether the limitations in the parenthesis are part of the claimed invention.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claims 1 and (3-5)/1 are rejected under 35 U.S.C. 102(e) as being anticipated by Konishi et al (USPN 5,891,531.) Konishi et al teach a process for producing a thin film of fluoride on a substrate wherein the process comprises reacting a gaseous fluorinating agent such as NF_3 , SF_6 and CF_4 , and gas of volatile organometallic compound, wherein it is preferred that barium is comprised in the composition of the thin film of the fluoride by using a volatile organobarium compound in which at least one organic molecule having 3 to 12 heteroatoms which can coordinate to one barium ion is coordinated as one of the volatile organometallic compounds with examples of the heteroatom including oxygen, nitrogen and sulfur (Abstract; Col. 8, lines 53-58; Col. 9, lines 18-19.) Konishi et al teach that a fluoride layer is deposited on a substrate by reacting the plasma of the gaseous fluorinating agent with the gas of the volatile organometallic compound wherein the substrate is durable at the substrate temperature during deposition with example substrates including oxide glasses, silicon, and magnesium oxide MgO (as in instant claim 1; Abstract; Col. 10, lines 12-17.) Konishi et al teach that a thin film of fluoride glass, such as those listed in Col. 10, lines 19-23, including CaF_2 (*reads on the formula in instant claim 3*), with very little impurities, that is highly pure, transparent and consolidated, can be produced according to the process taught by Konishi et al wherein the product produced is useful as an

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optically functional material such as for display devices utilizing up-conversion fluorescence and the electroluminescence (Abstract; Col. 1, lines 5-17; Col. 10, lines 27-39.) With regards to Claims 4-5, the Examiner takes the position that the limitation reciting "wherein the fluoride layer is obtained by reaction of a gaseous fluorinating agent with any one of MgO...and compound oxides of alkali earth oxides and rare earth oxides" is a product-by-process limitation wherein product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985.) Therefore, given that the product taught by Konishi et al appears to be the same product as in instant claim 4, the Examiner takes the position that the invention taught by Konishi et al also anticipates the product of instant claims (4-5)/1.

11. Claims 1, 3/1, 6/1 and 18/1 are rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art recited on Page 3, line 18-Page 6, line 3. The admitted prior art teaches a flat panel display comprising a protecting film comprising a magnesium oxide body and a fluoride layer formed over the magnesium oxide wherein the fluoride layer is LaF_3 which reads on the formula as recited in instant claim 3, and has a thickness within the instantly claimed range.

12. Claims 1, (3-5)/1 and 18/1 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 10-149767 (JP'767.) JP'767 teach a plasma display panel that is a flat panel display comprising

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a protecting film 18 formed from MgO, CaO, SrO, BaO, or a group of these compounds; and a protective coating 19 on the protecting film 18 wherein the protective coating 19 may be a fluoride layer formed from MgF_2 and CaF_2 (Abstract; Claims 1-2; Paragraphs 0002, 0016-0017; Figures 1-2.) With respect to Claims 4-5, the Examiner takes the position that the limitations presented in these claims are product-by process limitations wherein product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985.) Therefore, given that the product taught by JP'767 appears to be the same product as instantly claimed, the Examiner takes the position that the invention taught by JP'767 anticipates the product of Claims (4-5)/1.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1, (3-6)/1, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jansen et al (USPN 5,496,583) in view of the admitted prior art recited on pages 3-6 of the instant disclosure. Jansen et al teach the production of hydrogen fluoride dopant source gases for

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use in the production of conductive coatings on substrates wherein fluorocarbon source gas is decomposed in the presence of oxygen to yield HF (hydrogen fluoride) which is passed to a deposition furnace wherein a fluoride doped metal oxide coated glass substrate is prepared and wherein the method is simple, effective, safe and cost-effective for preparing high yields of fluoride source gas from fluorocarbons (Abstract.) Jansen et al teach that the fluoride doped metal oxide can be deposited on glass or any substrate based upon the desired end product such as photovoltaic devices and other electronic devices with an example comprising a fluoride doped layer having a thickness of 540nm (Col. 2, lines 46-55; Col. 4, lines 31-45; Examples; Col. 5, lines 24-26.) Jansen et al does not specifically teach that the glass substrate is a flat panel display with a metal oxide protective film and that the metal oxide utilized in producing the fluoride doped layer is selected from those as instantly claimed. However, the admitted prior art teach that flat panel displays utilize a fluoride layer provided over a metal oxide protecting film to provide improved protection to the substrate display wherein MgO is typically utilized as the metal oxide. Therefore, given the teachings of Jansen et al, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize the fluoride doped metal oxide coated substrate taught by Jansen et al for any electronic device such as for a flat panel display, utilizing any metal oxide based on the desired end use of the coated substrate, wherein MgO as taught by the admitted prior art, is commonly used for flat panel displays, and utilizing routine experimentation to determine the optimum thickness of the fluoride layer to provide the desired mechanical and protective properties for a particular end use.

15. Claims 6/1 and 18/1 under 35 U.S.C. 103(a) over Konishi et al in view of the admitted prior art. The teachings of Konishi et al are discussed above wherein Konishi et al teach that the

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product produced is useful as an optically functional material such as for display devices utilizing up-conversion fluorescence and the electroluminescence. Konishi et al do not specifically teach that the display device is a flat panel display and that the fluoride layer has a thickness as instantly claimed. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize the fluoride coated substrate taught by Konishi et al for a flat panel display given that the admitted prior art teach that a fluoride layer is advantageously provided over a flat panel display device to provide improved protection properties to the display device and further noting that a flat panel display is an obvious species of display devices suitable for use of the invention as taught by Konishi et al. Further, though Konishi et al teach that the process produces a thin fluoride film on a substrate, Konishi et al does not specifically teach the thickness of the fluoride film, however, given that the thickness is a known result-effective variable affecting the mechanical and protective properties of the film, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize routine experimentation to determine the optimum thickness for a particular end use wherein the admitted prior art disclose a fluoride layer thickness for flat panel displays within the instantly claimed range.

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. Claims 1, (3-6)/1 and 18/1 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3, 4, 7-12 and 14 of copending Application No. 09/901908. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one having ordinary skill in the art to determine the optimum thickness of the fluoride layer to provide the desired mechanical properties for a particular end use. Further, though 09/901908 claims specific forms for the metal oxide layer, including polycrystalline, sintered, or single crystal, these are common forms in which metal oxides are utilized and do not materially change the composition of the metal oxide layer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Information Disclosure Statement

18. The Examiner acknowledges receipt of the information disclosure statement (IDS) submitted on 6/12/02 which discloses the claims from the related patent application 09/901908. The statement has been entered in the application and has been considered by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in black ink, appearing to read 'Monique R. Jackson', with a stylized flourish at the end.

Monique R. Jackson
Patent Examiner
Technology Center 1700
August 26, 2002